Appendix F: Meadows Campground Case Study NIST BLCC Comparative Economic Analysis

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* N I S T B L C C: COMPARATIVE ECONOMIC ANALYSIS (ver. 4.4-97) *

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Project: Meadows Campground
Base Case: Generator
Alternative: PV System

Principal Study Parameters:

Analysis Type:	Federal Analysis—Energy Conservation Projects
Study Period:	20 Years (May 1997 through April 2017)
Discount Rate:	3.8% Real (exclusive of general inflation)
Base Case LCC File:	MEADWGEN.LCC
Alternative LCC File:	MEADWPV.LCC

Comparison of Present-Value (P.V.) Costs

	Base Case: Diesel Gen.	Alternative: PV/Hybrid	Savings from Alt.
Initial Investment item(s):			
Capital Requirements as of Service Date	$1,500	$11,837	-$10,337
Subtotal	$1,500	$11,837	-$10,337
Future Cost Items:			
Annual and Nonannual Recurring Costs	$49,331	$705	$48,626
Energy-related Costs	$3,216	$0	$3,216
Capital Replacements	$3,135	$0	$3,135
Subtotal	$55,682	$705	$54,978
Total P.V. Life-Cycle Cost	$57,182	$12,542	$44,641

Net Savings from Alternative PV System compared to Base Case Generator

Net Savings =	P.V. of Noninvestment Savings	$51,843
-	Increased Total Investment	$7,202
	Net savings:	$44,641

Note: the Savings-to-Investment Ratio (SIR) and Adjusted Internal Rate of Return (AIRR) computations include differential initial costs, capital replacement costs, and residual value (if any) as investment costs, per NIST Handbook 135 (Federal and MILCON analyses only).

SIR for Alternative PV System compared to Base Case Generator

$$SIR = \frac{\text{P.V. of Noninvestment Savings}}{\text{Increased Total Investment}} = 7.20$$

AIRR For Alternative PV System compared to Basecase Generator
(Reinvestment Rate = 3.80%; Study Period = 20 years)

AIRR = 14.57%

Estimated Years to Payback: Simple Payback occurs in year 3; Discounted Payback occurs in year 4.

ENERGY SAVINGS SUMMARY

Energy Type	Units	Average Annual Consumption — Basecase	Alternative	Savings	Life-Cycle Savings
Distil. Oil	Gallon	200.0	0.0	200.0	4,000.0
Other	kWh	0.0	0.0	0.0	0.0